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Appl. No. 09/744,469

September 23, 2003

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Withdrawn) An assay method for an agent which affects Importin α acetylation, the method including:
 - (a) treating an acetylated Importin α polypeptide or peptide with a test compound, or
 - (b) treating with a test compound an Importin α polypeptide or peptide which comprises one or more lysine residues corresponding to those found at positions Lys 18, Lys 20 and Lys 22 in wild-type Importin α Rch1, in which polypeptide or peptide one or more of said lysines is not acetylated, or
 - (c) bringing into contact a substance which includes a CBP polypeptide which acetylates Importin α , a substance which includes an Importin α polypeptide or peptide including a site acetylated by CBP, and a test compound; and
 - (d) determining acetylation of the Importin α polypeptide or peptide.
2. (Previously Presented) An assay method for identifying an agent which affects one or more Importin α activities selected from the group consisting of (i) binding Importin β , (ii) translocating into the nucleus, and (iii) importing a cargo protein, the method comprising:
 - (a) contacting Importin α and a test compound;

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(b) determining said one or more Importin α activities in the presence and absence of CBP (cAMP-response element binding protein) which acetylates Importin α , thereby determining the effect of CBP on said one or more activities; and

(c) comparing said effect in the presence and absence of the test compound, wherein a difference in said effect in the presence relative to the absence of the test compound being indicative that said test compound is an agent which affects said one or more Importin α activities.

3. (Cancelled).

4. (Currently Amended) An assay method for identifying an inhibitory modulator of CBP (cAMP-response element binding protein) and Importin α binding, the method comprising:

(a) contacting a CBP polypeptide, an Importin α polypeptide and a test compound;

(b) determining the CBP polypeptide and Importin α polypeptide binding by comparison to CBP polypeptide and Importin α polypeptide binding in the absence said test compound;

wherein inhibition of CBP polypeptide and Importin α polypeptide binding identifies said test compound as an inhibitory modulator of CBP and Importin α binding.

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5. (Previously Presented) An assay method for identifying an agent which affects one or more activities of Importin α selected from the group consisting of (i) binding Importin β , (ii) translocating into the nucleus, and (iii) importing a cargo protein the method comprising:

(a) contacting CBP (cAMP-response element binding protein) and a test compound;

(b) determining CBP acetyltransferase activity in the presence and absence of a test compound;

(c) comparing said CBP acetyltransferase activity in the presence and absence of test compound, wherein CBP acetylates Importin α and wherein a decrease in CBP acetyltransferase activity in the presence relative to the absence of the compound being indicative that the test compound is an agent which affects said one or more activities of Importin α ; and

(d) determining the effect of the test compound on one or more activities of Importin α selected from the group consisting of (i) binding Importin β , (ii) translocating into the nucleus and (iii) importing a cargo protein.

6. (Currently Amended) A The method according to claim 5 comprising determining acetylation of Importin α by CBP.

7 and 8 (Cancelled).

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9. (Cancel).

10. (Previously Presented) The method according to claim 2, claim 4, claim 5 or claim 9 further comprising formulating said agent into a composition comprising a pharmaceutically acceptable excipient.

11. (Cancelled).

12. (Withdrawn) A method according to claim 10 further comprising providing a said agent, or, optionally where said agent is peptidyl, nucleic acid encoding a said agent, to cells to modulate one or more of ability of Importin α to (i) bind Importin β , (ii) translocate into the nucleus, and/or (iii) import a cargo protein.

13. (Withdrawn) A method according to claim 12 wherein said agent or nucleic acid is provided to cells *in vitro*.

14. (Withdrawn) A method according to claim 10 further comprising use of a said agent, or, optionally where said agent is peptidyl, nucleic acid encoding a said agent, in the manufacture of a medicament for treating a disorder of Importin α activity.

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15. (Withdrawn) A peptide fragment of Importin α or of CBP, which peptide is about 40 amino acids or less, and which modulates interaction between Importin α and CBP.

16. (Withdrawn) A peptide according to claim 15 which is an Importin α peptide comprising one or more lysine residues corresponding to those found at positions Lys 18, Lys 20 and Lys 22 in wild-type Importin α .

17. (Withdrawn) A peptide according to claim 16 which is about 20 amino acids in length.

18. (Withdrawn) An isolated nucleic acid encoding a peptide according to claim 17.

19-23 (Cancelled).

24. (New) An assay method for identifying an agent which binds to a region of CBP (cAMP-response element binding protein) or a region of Importin α ,

wherein the region of CBP binds to the region of Importin α , where acetylation of Importin α occurs, an agent which binds to said region of CBP or said region of Importin α being an inhibitory modulator of CBP and Importin α binding, the method comprising:

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(a) contacting CBP or a CBP peptide comprising residues 1078 to 1785 of CBP or Importin α or an Importin α peptide comprising residues 1 to 95 of Importin α and a test compound;

(b) determining the binding between the CBP, CBP peptide, Importin α or Importin α peptide and the test compound,

(c) contacting CBP, Importin α and a test compound determined in step (b) to bind the CBP, CBP peptide, Importin α or Importin α peptide; and

(d) determining the CBP and Importin α binding in the presence and absence of said test compound determined in step (b) to bind the CBP, CBP peptide, Importin α or Importin α peptide

wherein inhibition of CBP and Importin α binding identifies said test compound determined in step (b) to bind the CBP, CBP peptide, Importin α or Importin α peptide as an inhibitory modulator of CBP and Importin α binding.

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